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USB Protocol Suite™ 4.75 Build 1561 Release Notes

Updated: October 18, 2013

Compatible with **USB Compliance Suite 1.95 b 220** or higher.

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1. Overview

This Read Me file contains last-minute product information for the USB Protocol Suite™ software for Microsoft Windows.
For full instructions on using the software and the hardware, please see the User's Manual and other documents provided with this product.

Important Note: Please uninstall all older CATC/Teledyne LeCroy USB software (USBTracer, USBAdvisor and USBMobileHS) before installing USB Protocol Suite. The older applications are NOT compatible with the new software and device drivers.
Traces recorded with the older software can be loaded in the new USB Protocol Suite software. It automatically converts the traces to the new file format (the original file will remain).

Notice of End of Support for legacy CATC and LeCroy USB Analyzers

Note: As of this release (4.70), validation of the USB Protocol Suite will be done only on the Advisor T3, Mercury T2, and Voyager USB analyzers.
No further testing will be done with USBTracer/Trainer, Advisor, USBMobileHS or USBMobileT2, which have been End-Of-Life for a year or more.
Nothing will be done to remove support of these older devices from the software, but the user should be cautioned that no new bug fixes will be implemented for these analyzers. If problems occur on these EOL'd analyzers in future releases, you will have to uninstall the newer software and install an older release which will be available on the Teledyne LeCroy Web Site.

2. System Requirements

The following is a list of recommendations for the host machine that runs the USB Protocol Suite™ application and that is connected to the USB Analyzer systems.
For optimal performance, it is recommended that the software is installed and operated on a host machine that is of a recent generation of personal computers architecture. However, the software should also operate on machines that are below the minimum requirements specified here, at the cost of slower performance, provided that memory, storage and display requirement are kept.

2.1. Software

Operating System (Voyager M3 / M3i / M3x, Advisor T3, Mercury T2):

- Windows 8 (x86 and x64), Windows Server 2012 (x64), Windows 7 (x86 and x64), Windows Server 2008R2 (x64), Windows XP (x86).
- The latest Service Pack available for the Windows OS in use is required.
- It is recommended that you use one of the supported 64-bit Windows versions listed above as they allow using more RAM than the 32-bit ones.

Required applications:
Microsoft Internet Explorer, version 6 or newer. To view the manuals, datasheets and other documents, you would need to install 'Adobe Acrobat Reader' (http://get.adobe.com/reader).

Note for Non-English Language Systems:
To load and save filenames with non-English (Unicode) characters, it is necessary that you correctly set the corresponding System Locale in the Operating System.

Note regarding loading of Audio/Video support files:
CATC Walk Enhanced Markers playback of audio/video files - On some systems, the USB Protocol Suite may not be able to playback audio/video files embedded in markers even if the appropriate media codecs are installed. The root cause is usually a 3rd-party application that installed a faulty filter that prevents the Microsoft DirectShow subsystem from loading the required audio/video filters. One known 3rd-party application that causes this problem is Corel WinDVD v10. The recommended solution is to uninstall Corel WinDVD v10 if it is not being used.

2.2. Hardware

Memory (RAM):
This software application may use up to 4GB of the RAM in the host machine. For improved performance of the software, it is recommended that 16GB of RAM is installed on the host machine. Memory as little as 2GB would still allow the software to function, but would limit its performance and user experience. It is recommended to have physical RAM at least twice the size of the recording buffer.

Non-volatile Storage (SDD or Hard Disk):
- Storage space of 300MB is required for installing the USB Protocol Suite™ software on the host machine.
- Additional storage space is needed for the operation of the software application and for storing recorded data in files.
- Please remember that storing large captured traces can result in multiple gigabytes of file sizes and can quickly fill your available storage space.

Display:
- To take full advantage of the rich visualization and analysis of Teledyne LeCroy software it is recommended that the display is set to at least **1050** lines of vertical resolution with at least 24-bit color depth.
- The minimum requirement for the display is a resolution of 1024x768 with at least 16-bit color depth.

Connectivity:
- It is recommended that a Gigabit (1000Mbps) Ethernet or a Super Speed 3.0 link is used for the connection with the Voyager M3x analyzer. A Gigabit (1000Mbps) Ethernet or Hi Speed USB 2.0 link should be used for the connection with the Voyager M3i analyzer.
- USB 2.0 Full-Speed host interfaces are not supported on Voyager systems.
- For Ethernet host interfaces, both DHCP and Static IP configurations are supported; however, Static IP configuration requires a USB 2.0 connection for first time IP address configuration.
- If multiple analyzers are daisy chained and connected to the same host machine, one Ethernet connection or one USB port is required for each analyzer.
- Mercury T2 and Advisor T3 support USB 2.0 Hi-Speed or Full-Speed host interfaces.
- Please note that there is no connectivity requirement if the analysis application is used to only view pre-recorded traces.
- For tips as for how to improve on the performance of the Teledyne LeCroy analysis system and more specifically on the performance of the software, please refer to the User Manual.
- Problems have been found using on systems Texas Instruments xHCI driver version 1.12.20.0 and 1.12.25.0 which prevents maintaining communication with the analyzers. This can be fixed by using driver version 1.12.16.0 Rev. A 3 Jul 2012, or by using a different host controller.

2.3. Supplemental Teledyne LeCroy Applications

CrossSync:
The CrossSync Application is included to allow you to control recording from more than one technology and/or Platform. It also adds the ability to synchronize the viewing of Traces in more than one application. Details on the requirements and usage may be found in the Cross Sync User Manual. This application is included without charge in the USB Protocol Suite installation.

USB Compliance Suite:
The USB Compliance Suite enables the testing of USB Hosts and Devices to verify their compliance with the USB Specification. It is currently in Beta, due to the USBIF Compliance Specification not having been released yet at 1.0 level for Link Compliance. It is an optional feature which may be purchased for use on a Voyager M3i system. Details on its operation can be found in its manual: USBComplianceSuiteUserManual.pdf.

The above applications are NOT designed to be run at the same time, nor in conjunction with any other applications which connect to the USB Protocol Suite through the Automation API. If you use any of these applications, please close the applications and verify that USB Protocol Suite has shut down before running any other of these applications or USB Protocol Suite in its normal configuration.

Note: Users of CrossSync, USB Compliance Suite or any code which uses Automation Interface to the USB Protocol suite:
If you run into a problem where the system says it cannot write the trace files to the disk, please check the following:
- The destination folder of the Trace File has write/create permissions for this capability. (Often this is NOT the case when a network file system is the target directory.)
- Try changing the Firewall Settings for USB Protocol Suite to Public. This can be done through Windows Firewall or through whatever Firewall you are using.

3. Release Notes

3.1. What's New

- This is version 4.75 of the USB Protocol Suite.
- New Features
  - Voyager M3x Platform with USB 3.0 Host Interface
  - USB Compliance **1.95 b 220** or higher. **Check UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.**
  - Separate Idle and SKP filtering
  - Stop Recording on Trigger

- This release supports the following Teledyne LeCroy products:
  - Advisor T3
    - Main BusEngine version 2.10
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 2.20
    - Serdes BusEngine version 1.11
    - Firmware version 1.62
    - IOHub Bus Engine 9.00
  - Mercury T2
    - Main BusEngine version 1.00
    - Firmware version 1.02
  - Voyager M3x
    - Main BusEngine version 1.09
    - Firmware version 1.22
    - IOHub Bus Engine 3.37
    -
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
PnW12476	RNDIS IOD Decoder not working
PnW11135	U1exit LFPS issued and the link goes to incorrect state
PnW11938	Stop Recording on Trigger for 3.0 added
PnW11873	Compliance Voyager keeps sending POLLING.LFPS while termination is removed
PnW11864	[API] GetPacket does not return consistent data
PnW11846	Voyager mistakenly goes to U1 instead of U2 when other side is sending LGO_U1 when rejecting LGO_Ux
PnW11723	Voyager does not exit successfully from U2 state. (Hub Compliance TD 10.120)
PnW11810	Fix displaying of Triggering state in main window
PnW10653	recording option dialog box and display option unusable in Hebrew Windows
PnW10325	Document Plug/Unplug API
PnW10448	TD 7.37 Need to alter Pending bit to be deasserted on STATUS TP
PnW10340	Need to be able to force a SKP ordered set between the last TSEQ and the first TS1
PnW11093	TD.10.118 - Device Emulator does not send LGO_U1 after it receives the U2_Inactivity_Timeout LMP
PnW11488	CPLT = No when the data and ACKs line up
PnW11479	Custom Header Packet does not trigger with type value changed
PnW11466	USB3 Vision Decoding problems
PnW11461	END & SDP framing error not triggered
PnW11436	remove Enable/Disable WA decodings from shortcut list
PnW11435	[API] MakeRecording does not return if manual stop recording from USB PS
PnW11431	USB 3.0 external trigger not support with simultaneous USB2.0 & USB3.0 capture
PnW11429	Markers export to USB2 UTG files was embedded with HTML tag in search list
PnW11427	USB3.0 exerciser script range option not working
PnW11412	Add Set Marker Shortcut
PnW11398	

	Add CATC Sync Overrides to AT3 Rec Options.
PnW11395	Add "Simple Trigger" event details to Tooltip.
PnW11320	Glitch happens on Playback window when resizing the frame after playlist finished.
PnW11300	Sometimes exerciser does not send Credit(s) and cause that link goes to recovery
PnW11274	Real-time Statics: Throughput values do not match that reported by WIN system and that in timing calculator
PnW10883	Add "One Transaction as One Transfer" option in decoding assignment and decoding script
PnW10681	FR - Show entry into Compliance Mode in LTSSM views
PnW10462	Audio and Video attached in marker is not playing at the same session the marker created.
PnW10403	USB Suite Exerciser Documentation missing numerous register definitions
PnW9557	License Hub Compliance through multiple analyzer API
PnW9519	Drive Emulation doesn't work with Intel xHCI
PnW8858	View Level color code becomes red after system wakeup from sleep or hibernate
PnW6926	USB 2.0 Device Emulation does not respond to Suspend properly
PnW4701	SCSI operations not decoded through the whole trace
PnW2385	Graphical Bus Utilization misbehavior
PnW10697	HID device decodes incorrectly

3.2. Known Issues

Bug Id	Summary
2385	In some cases, the graphical Bus Utilization report may indicate that not enough memory is available to display graphs. If this occurs, save a smaller range of the trace file to analyze.
2537	In some cases, you may have to recompile a USB 3.0 exerciser script if you disconnect/reconnect the Voyager M3.
2873	Exerciser failure caused by switching 3.0 emulation scripts
3022	Explicit CRC in Exerciser script doesn't match what is sent

General

- Voyager may not work correctly if connected over Ethernet and USB at the same time. Please use only one type of interface.
- Errors may appear in the last couple of packets of a recording which are not real errors. They are a side effect of the recording terminated during the middle of a packet. Also, the first packet in a trace may be a partial one.
- In USB 2.0 Auto Speed Detect mode, the first few (up to ~20) packets may have errors on a high speed trace due to bouncing of the speed selection relay. These packets should be ignored.
- The External Trigger Out signal level is forced low at the beginning of each recording. This might cause false triggers on externally attached equipment.
- For USB 3.0 traffic capture, in some cases the analyzer might not correctly lock to the 5Gbps signals on power up, or it may lose lock after a long period of usage. If this occurs, you may issue a soft reset to the capture engine by selecting "Record | Reset SuperSpeed Capture Engine" from the menu. After performing this reset, you will have to retrain the link on your devices.
- The "Auto RxDetect" mode is designed to recognize 3.0 hosts and devices and present 3.0 terminations to them when they are both plugged in. In some cases, the timing is such that the Host and Device go into USB 2.0 mode, or don't connect. If this occurs, try doing a Disconnect/Reconnect cycle of VBus by hitting the "Momentary Disconnect" button on the toolbar. In other cases, you will have to disable then re-enable the xHCI Host controller driver in the Windows 7 Device Manager of your PDK.
- **Important note:** Windows Vista and Windows 7 user editable files (Automation, Samples, Scripts, etc.) are stored in:

<drive letter>:\Users\Public\Documents\LeCroy\USB Protocol Suite\

This is due to those Operating Systems' policy that the Program Files (application) folders are read-only. Those files and folders are Stored in the application folder on Windows XP.

3.3. API

Automation:

- There are several sample projects included with the application. To run them, you should make sure that the USB Protocol Suite application is already installed.
- The library file name to be used is: ***USBAutomation.tlb***.
- **HTML Sample:**
- For editing the HTML sample code you can use a text editor or other HTML-editing tools.
- **CPP sample:**
  1. To compile the Visual C++ sample project you first need to install the Microsoft Visual Studio.
  2. You can select to install the USB Protocol Suite software in a directory different than the default one. If you choose to do so, make sure you add a path to the installation directory in your project's paths list. You can find the ***USBAutomation.tlb*** file in the installation directory. When using Microsoft Visual Studio, the path to the installation directory should be added to the following places in the 'Project Settings' property sheet:

(1) Under 'C/C++' tab, 'Preprocessor' category in the 'Additional include directories'.
(2) Under 'Resources' tab, in the 'Additional resource include directories'.

- When a remote server is disconnected abruptly while a client application is still connected, the client application might hang up for several minutes. At the end of this timeout, the client would be released with a "The RPC server unavailable" notification. This is due to Windows conduct. [C0004997]

Note on VSE scripts which use the methods to access Address and Endpoint fields (GetAddr(), GetEndp(), variables Addr and Endp): a bug was returning these values in their lsb->msb order for 3.0 traffic, and in normal msb->lsb order for 2.0 traffic. This has been fixed in 4.60 release so that the 3.0 values are now in the same format as USB 2.0 values,
msb->lsb. You may have to update your scripts if they depended on this bug.

4. Previous Releases

4.1. Version 4.60 Build 1402 (June 14, 2013)

- This is version 4.60 of the USB Protocol Suite.
- New Features
  - USB Compliance **1.80 b 197** or higher. **Check UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.**
  - New Decoders for RNDIS, USB Vision, ATA Pass-thru
  - Simple Triggers events (CRC errors, Low Power (U*n)* states, BCNT, etc…) now available in Sequencer (Advanced mode)
  - TERM ON, TERM OFF Trigger Events
  - Momentary drop VBus button can now operate in "toggle" mode (VBus ON / OFF)
  - Improved LFPS Detection

- This release supports the following Teledyne LeCroy products:
  - Advisor T3
    - Main BusEngine version 2.07
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 2.15
    - Serdes BusEngine version 1.11
    - Firmware version 1.59
    - IOHub Bus Engine 9.00
  - Mercury T2
    - Main BusEngine version 1.00
    - Firmware version 1.02
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
PnW11352	Acknowledge feature in Timing Calculator broken
PnW11315	MakeRecording API not working
PnW11313	Software crashes by entering 0 in column count in DataView
PnW11305	Simple Filters is not working with Advisor T3
PnW11300	Sometimes exerciser does not send Credit(s) and causes the link to go to recovery
PnW11298	Miscalculating the Data Payload when NRDY was sent
PnW11214	"No Bus Activity" error randomly
PnW11181	CrossSync: USB crash when opening the saved CrossSync traces without launching the protocol suite
PnW11176	default.umd file causing system to hang when starting

PnW11165	Cannot jump to any packet using the Traffic Summary Report
PnW11160	Move simple triggers BCNT, TERM-OFF, and TERM-ON to the Advanced Sequence Recording Resources
PnW11103	Bandwidth calculations incorrect
PnW11083	Voyager M3i does not capture last TERM-OFF
PnW10979	Anchor point reverts to Packet Zero
PnW10908	Feature request: Trigger on TERM ON & TERM OFF states
PnW10905	DPH packet with the asserted deferred bit , causes generation timeout - TD.10.116
PnW10872	Some RNDIS devices uses USBIF class code [E0] and some uses Microsoft's [02]
PnW10871	Markers don't export correctly to USB2 UTG files
PnW10840	Bulk-In data value miscalculated in the transaction level
PnW10839	Change Momentary VBus disconnect to ON - OFF mode
PnW10831	Delay PING.LFPS 100ms when using device emulation
PnW10780	LFPS trigger problem
PnW10764	Markers cannot be saved into a new file with save as
PnW10698	Config Descriptor decode - incorrect in 4.50
PnW10682	decode of SCSI commands is broken in 4.50
PnW10665	Bad Packet Length Error incorrect in new version of software
PnW10658	Different start time for traces captured by Sync
PnW10538	Last Term-off packet is lost if there is no traffic on BUS after that
PnW10510	Tx traffic has been lost when Voyager (Host mode) is in U3 and Rx side initiate U3 wakeup (Blocker for Hub Compliance TD 10.115)
PnW10484	NCM Interrupts transfer is not decoded correctly
PnW10478	CP packet information not visible in spreadsheet view
PnW10458	Status bar in Japanese version disappears
PnW10452	UTG compile with potential false error message "Endpoint 0 must always correspond to end_mem_seg=1"
PnW10446	Decode dialog uses incorrect Packet default for trace type. Fix defaults to be consistent with speeds and transfer types
PnW10445	both USB2.0 & USB3.0 generator text file range not working
PnW10423	Instruction button in Rec Opt and Setup Display are overlapped and truncated in OS XP Hebrew
PnW10419	Decoding issue with UASP burst IN/OUT transactions
PnW10415	Timing Calculator field are truncated with large size of text in Win 7 & 8
PnW10412	[CATC Walk] Crash when try to resize the playlist player
PnW10380	New Hide Event buttons should indicate when item is hidden/visible
PnW10364	GetHexScriptField and GetDecodedScriptField don't appear to work
PnW10363	numerous bad double quote symbols in VSE sample of VSE document
PnW10359	Last modify date of traces is updated by just opening trace
PnW10325	Automation Unplug / Plug not working
PnW10320	Restore Factory Setting will change the trace filename & path setting
PnW10296	WaitEvent(ET_LINK_STATE, U0) Compile Error
PnW10294	Synchronized Termination Off does not work. blocker for TD 10.102
PnW10282	bandwidth calculations do not include ISO transfers
PnW10281	Link Tracker window disappears when you use the scroll arrow in the Trace View window.
PnW10249	Request for Starting an ISO transfer on particular bus interval
PnW10248	USB3 Vision spec support
PnW10239	USB HID class decoding does not work in the trace, Keep Across Recording ignores max packet size
PnW10207	Random Invalid Block Timestamp on USB3 capture buffer
PnW10186	Incorrect Transaction and Transfer Lengths when sequence errors occur
PnW9940	Cannot run device emulation with a hub in between
PnW9909	USB3.0 users cannot trigger on BCNT
PnW9852	Converting USB Chief files fails
PnW9704	BOT decoding - does not decode many SCSI commands from the CBW's
PnW9575	SB_COUNTER_WORD and SB_COUNTER_BYTE information should be updated in manual.
PnW9557	License Hub Compliance through multiple analyzer API
PnW9556	RTS toolbar button hidden after analyzer connected.
PnW9553	Cell hidden message pop up when searching USB3.0 errors while the cell was not hidden

PnW9549	Payload decoding for MBIM/CDC requests
PnW9505	Prevent system entering sleep or hibernation mode while application still recording, loading and/or decoding the trace
PnW9439	MBIM NDP decode looks the same as the NTH
PnW9276	Many truncated words and sentences in Win XP Chinese
PnW8851	Concurrent operations of ISO IN + Control IN for UVC+UAC test case
PnW8472	Prepare Wait Packet Modification in emulation
PnW7809	[VSE, CATCWalk] VSE AddEventToTraceFile primitive does not handle CATC Walk markers
PnW7536	Update to newest RNDIS decoding spec
PnW5383	USBSuite (launch by compliance suite) crashes when 2nd voyager connected with Ethernet
PnW5192	NCM Decodes should be assigned automatically during enumeration
PnW5073	Request for Triggering on new SCSI OPs
PnW4566	Rec Rules State label slow to update when Advisor T3 is attached
PnW4433	Add USB Error trigger events in Advanced (Sequencer) Mode
PnW4088	Enhance SCSI Command decoder to include ATA Pass Through commands
PnW4005	update supported SCSI commands sets on current revisions
PnW3838	NRDY transaction should roll up inside the transfers
PnW3154	Change Default value for collapse idle in link tracker
PnW10340	Need to be able to force a SKP ordered set between the last TSEQ and the first TS1

4.2. Version 4.50 Build 1282 (Jan 8, 2013)

- This is version 4.50 of the USB Protocol Suite.
- New Features
  - USB Compliance 1.70 b 157 or higher
  - Decode Compliance Patterns CP0, CP1, and CP2 as packets
  - Hub Compliance Support
  - Dockable Decoding Window
  - CATC Sync SW overrides for Voyager M3i

- This release supports the following Teledyne LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.24
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 1.67
    - Serdes BusEngine version 1.11
    - Firmware version 1.57
    - IOHub Bus Engine 9.00
  - Mercury T2
    - Main BusEngine version 1.00
    - Firmware version 1.02
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
10425	Incorrect time values for USB 3.0 Exerciser events, including SKP interval (~20% off)

10424	Export USB 2.0 .utg files missing Config data for Control Endpoints
10407	Crash during Uploading
10391	Deleting SCSI Trigger event from USB 3.0 event bin causes crash
10133	Typing with CAPs in the Marker field brings up errant search dialog
10118	TD 10.102 Termination Off/On synchronization problem
10011	BCNT being interpreted as IPS - Electrical 3.0 test mode
9996	Crash while setting CATC Walk markers from API
9926	Win 8 .pdf launching support
9866	Voyager Uploading crash
9821	Invalid LFPS detection during transition to low power states
9799	Many wrong errors mark in Errors pane Navigator with USB 2.0 Hi Speed.
9713	Need to allow independent triggers and Disconnection of CATC-Synced
9707	Shrink RTS window to fit all controls on 768 line high screen
9704	BOT decoding - does not decode many SCSI commands from the CBW's
9682	EDB framing symbols is decoded as BERC
9680	USB Suite software does not show "Warm Reset" in Search options
9672	Apply new terminology to Rec Opts and DIsplay Opts dialogs
9662	Added documentation about Wait Packet functions
9657	High level decodes does not assign automatically HUB request when recipient is other(port) and assignment info exist
9655	False data toggle error in HS
9645	Export data function to not print data headers
9636	1028-byte DP shown when CRC-32 error occurs in an aborted packet.
9631	Improper argument error appears if click on empty field in Assign Decodes in Win XP
9617	[Documentation] Sample Generation/Excerciser File paths are incorrect and files not up to date
9584	Decoding Error - Hub Route string going toward devices marked "reserved"
9570	Power Management changing link states without device connected
9565	Cplt No field not shown in incomplete transaction
9548	Need "Restore Factory Settings", "Save as Default" and "Load Default" for Preferences files
9531	Enhance Stacking Rules
9527	Enhance Show/Hiding buttons and functionality in toolbar
9519	Drive Emulation doesn't work with Intel xHCI
9461	Problem loading Audio/Video playback filter dialog appear when open any USB trace file while no USBSuite process running.
9440	MBIM decode needs to show the number of DATA bytes remaining after decoding the NTH and NDP
9439	MBIM NDP decode looks the same as the NTH
9402	Need to update Assign Decoders dialog documentation in USB User Manual for 4.50 to match new implementation
9382	DisplayLink descriptor decoding problem
9335	Exerciser doesn't work properly until user opens recording options and press ok
9310	Stacking in transaction view is being displayed by transaction type - would like the open to display by addr/endp
9306	Decode Compliance Patterns CP0, CP1, and CP2 explicitly as packets (was shown as IPS)
9288	[API][Examples] Trace referenced by API Examples is not up to date (needs to be updated...)
9264	[CATC WALK] .wmv file failed to display video in playlist and marker's tooltip in Win XP
9252	incorrect/confusing report of packet count in collapsed view
9169	Improve Placement of U2 Transition
9075	Make "View Decoded Request" window dockable
9013	LTSSM View is reporting an invalid configuration
8941	Transfer view includes wrong transaction
8911	Filter out Polling.LFPS
8903	Counter pattern for byte, word boundaries.
8887	Bus Interval Counter AND period Errors needed: Take into account retries due to Link problems
8882	No trace being capture and upload if record done in exerciser mode with filter out LUP/LDN enabled
8865	Can't open Usb3Script document with double click when USB Suite already launched
8852	Window positions cannot always be arranged
8820	Add support for decoding MBIM - Mobile Broadband Interface Model Specification
8807	LTSSM View reporting wrong state when in TRA/Xfer

8734	USB 3.0 SCSI event Address/Endpoint field cannot be saved
8733	USB3.0 SCSI event TAG field cannot be cleared
8713	Rec Opts TP properties: host_notification was not decoded properly
8711	Rec Opts TP properties: host_notification events does not define the bit field properly
8710	Add dev_notification decode for notification type = 0x4 HOST_ROLE_REQUEST
8661	SCSI traffic summary or search not update with command set changed
8650	Automation API needs to support multiple Analyzers and Exercisers
8649	Enable multiple instances of USB 3.0 Exerciser for Hub Compliance Testing
8540	Incorrect stacking on different address
8472	Prepare Wait Packet Modification in emulation
8357	Windows 8: Video Tutorials are not opening
7946	FR: Export to generation file should support From Marker to Marker
4996	Added documentation about Vbus functions
4177	Power Value API's added
3336	Triggering on EIdle not Logic Idle?
2623	LTSSM view does not work in the trace starting in U3 state
712	Out of Memory for Bus Utilization
389	Find option Transactions - Split was not able to find Spits present in the recorded trace.

4.3. Version 4.40 Build 1239 (July 31, 2012)

- This is version 4.40 of the USB Protocol Suite.
- New Features
  - Mercury T2 USB 2.0 Analyzer

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.22
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 1.62
    - Serdes BusEngine version 1.11
    - Firmware version 1.53
  - Mercury T2
    - Main BusEngine version 0.75
    - Firmware version 1.02
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
PnW9456	Missing Electrical Idles in capture
PnW9388	Error message appears when clicking OK in Assign Decodes windows
PnW9387	VSE Shortcut not working
PnW9381	Added "Other Manuals" entry in Help Menu
PnW9376	CATC Walk: Open trace file with marker will prompt false error

PnW9367	Fix for Decoding Assignments Dialog
PnW9364	High performance BOT transfers in Exerciser Device Emulation
PnW9362	Include Tell LeCroy information in user manual
PnW9302	Bulk Transfers are incorrectly listed as "Transfer not completed" (CPLT NO)
PnW9248	Add support for Interrupt endpoint on 3.0 Exerciser
PnW9247	Update User Manual for new example trace files directory
PnW9222	XFR does not display bulk out properly due to SW missing short packet as Xfer
PnW9095	bug report and request option through Help Menu
PnW9083	Fix Mechanism for sync/unsync views
PnW9082	Invalid Recording Rule Configuration Message wrong for Counters on Advisor T3
PnW9018	[Documentation][API] GetSerialNumber and GetVersion C++ Examples use wrong variable m_poAnalyzer instead of poUsbAnalyzer
PnW9017	[Documentation][API] C++ Examples use the wrong class ID: CLSID_UsbAnalyzer instead of CLSID_UsbAdvisor
PnW8998	LFPS subtype specified incorrectly as U1 Exist because of wrong LTSSM state
PnW8943	Endpoint Descriptor wMaxPacketSize incorrect
PnW8936	GetNBits does not always work as expected
PnW8913	Add to USB TT Ext Trig In documentation: 1.5K pull up to 3.3 V . Trigger is the rising edge condition.
PnW8907	VSE - GetHexPktField() for EoB on 3.0 DataPackets returns incorrect value
PnW8905	Invalid LGO_U1 raw representation in the API
PnW8903	Counter pattern for byte, word boundaries.
PnW8883	Symbol for framing error only corrupt at 1st symbol even set to other number.
PnW8882	No trace being capture and upload if record done in exerciser mode with filter out LUP/LDN enabled
PnW8876	Hiding ISO Time Stamp Packets cause LCRD's to disappear
PnW8857	[VSE][Documentation] References to functions GetNBits(), NextNBits(), or PeekNBits() not clearly defined to point to the Script Decode Manual
PnW8856	The USB VSE Manual does not mention what language it is based on or reference the Script Decode Manual
PnW8850	Control Number of Bursts within 125us
PnW8848	[CATC Walk] Tooltip marker playback played at unmark Transfer packet
PnW8828	TD 7.01 Hub Invalid FAIL - analyzer missing LFPS Polling
PnW8757	Misleading information for update bus/firmware engine after downgrade software version.
PnW8756	Loop option for traffic generation become grayed out in device emulation mode
PnW8748	Desktop host drive emulation failure
PnW8743	[Crash] SW Crashes when attempting to add max length comment to trace
PnW8726	Update the application notes installation to include all of them
PnW8721	Could not select repeat option in drop-down menu for traffic generation
PnW8705	Two Search backward items in Shortcuts List
PnW8695	UASP Decode Order Mix Up
PnW8641	Bulk Transfers decode incorrect for ENET
PnW8630	Slider bar for playing time is locked for first video or audio played and its sound slider bar is missing in CATC playback window
PnW8616	Go to selection point in menu/toolbar
PnW8615	Scroll by mouse wheel doesn't work if packet selected by double-click
PnW8602	Stacking button causes some transactions to disappear
PnW8579	Warm Reset LFPS not appearing in Search Menu
PnW8548	Update the USB Comm Class Spec
PnW8522	Hide/Show packets based on Stream ID
PnW8468	"SB_COUNTER" will not count up when running SendPipeCommand
PnW8442	Voyager Exerciser function ACK/NAK response
PnW8408	Warn user if Cross-Sync prevents recording from starting.
PnW8367	CPLT No shows up when the transfer has completed
PnW8329	Add External Trigger In to Exerciser to Initiate script
PnW8295	2.0 Bad Packet Length errors are reported when there shouldn't be

PnW8249	Reset for exerciser/re-activation of emulation
PnW8114	Trigger event names are missing after reopening the dialog
PnW7974	Unable to generate Data Symbol Babble (3.0)
PnW7947	FR: Allow Exerciser to accept External Trigger in
PnW7946	FR: Export to generation file should support From Marker to Marker
PnW7945	UAS MSC Decoding only applied on some Traffic when Warm Reset occurs
PnW7915	Go To menu enhancements
PnW7863	"update only on request" for data & spec view, scroll buttons not working correctly
PnW7483	Add new trigger function on bad DPP
PnW6653	Issue sending LMP in device emulation
PnW5609	Win 7 hang with SS spool recording on voyager
PnW5572	Time stamp sync issues using b1020 with hub and PM enabled -
PnW5558	Hub Decoding Issue -
PnW539	[SW, b415] Should not build up transactions/transfers from corrupted packets
PnW5074	v4.20 Clarification of External Trigger Pulse High, Low & Toggle setting
PnW4712	Display "Cplt No" status after switching from Interrupt Transfer to Bulk Transfer
PnW4632	In Timing Calculations, measurement of USB 3.0 "Data_Only_BW" field is incorrect
PnW4610	GUI elements are slow to open/close or move in Advanced Triggering
PnW2768	Pulse High in ext. triggering in Actions in UBS2 rec. Rules does not send Pulse. Pulse Low toggles.
PnW2358	Disconnecting Voyager during update caused the software to crash
PnW2332	Occasional crashes in the end of uploading of two cascaded units
PnW1577	Wrong interpretation of response in PTP Transactions

4.4. Version 4.38 Build 1177 (July 2, 2012)

- New Features
  - Critical Bug Fixes

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.22
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 1.59
    - Serdes BusEngine version 1.11
    - Firmware version 1.52
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Issue Id	Summary
9121	Missing LFPS captures in Advisor T3
8969	Missing Recording Rules capabilities in USBTracer, USBMobileHS, and Advisor
8964	SW crash during resizing column in Timing Calculator
8965	Wrong tooltip shown in Timing Calculator after resizing window
2460	In rare cases, software might not recognize valid USB 3.0 packet framing if the first symbol is corrupted.

4.5. Version 4.36 Build 1173 (May 2, 2012)

- This is version 4.36 of the USB Protocol Suite.
- New Features
  - Advisor T3 "Basic" support
  - Supports USB Compliance 1.50 version with BOT Mass Storage Compliance

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.20
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 1.59
    - Serdes BusEngine version 1.11
    - Firmware version 1.52
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Issue Id	Summary
7464	Negative TimeStamp for LFPS
7956	Incorrect LFPS Identification in some cases
8304	Handle single corrupted framing symbol
8496	Frame errors on TD7.06
8511	Slow scrolling through stacked packets.
8557	Device Link Layer TD7.27 - Idle symbols are regarded as IPS
8697	Incorrect UASP Decoding
8722	Some Host Controllers: Host drops Drive Emulator Drive in Drive Emulation Scenario
8735	USB3.0 SCSI Test Unit Ready event always trigger incorrectly with first data packet
8813	Crash using Tooltips in Trace View

4.6. Version 4.35 Build 1161 (March 26, 2012)

- This is version 4.35 of the USB Protocol Suite.
- New Features
  - New & Improved Hide Devices Dialog
  - Disk Drive Device Emulation on Exerciser *
  - Performance Enhancements
  - CrossSync 2.25
  - Supports USB Compliance 1.41
  - Anchor Points in views

    * See Application Note "DriveEmultaionProcedure.pdf" and Manual "VoyagerUSB3ExerciserScriptLanguage.pdf"

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.19
    - Firmware version 1.18
  - Voyager M3/M3i
    - Main BusEngine version 1.54
    - Serdes BusEngine version 1.11

    - Firmware version 1.51
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Issue Id	Summary
3807	PTP Decoded incorrectly
5074	Incorrect trigger level selection on a few recording resources
6228	Uploading of captured data in spooled mode stops when the buffer hits upper limit
6394	MDATA packet is detected as bad data toggle
6707	USB3.0 Traces imported from CSV do not keep license info
6841	Update the Hide Address/Endpoint Dialogue
6848	Hide & Search SCSI Operations/Transfers based on SCSI LUN
6870	When selecting a packet in the Trace View ---Highlight first Byte of same packet in Link Tracker
7088	General Performance Optimizations of Uploading and Decoders
7202	Data length cannot be searched on SCSI operation level
7268	USB 2 reports are broken in 4.21, turnaround timeout appears in trace but not in report..
7427	Complete the Packet Selection implementation: Add Anchor points to views
7458	User would like the packet length to be available at all speeds not just HS
7584	DHP filter not working
7621	UASP data rolled up into transfer incorrectly
7627	"Invalid Argument" message displayed when opening Traffic Summary Report
7716	USB VSE Template has Parse Errors: Function ShowStartPrompt doesn't exist
7722	Unable to capture enumerations from certain HS devices (Chirp capture problem)
7722	Advisor T3 does not capture Voyager and other devices plug-in. Chirp capture problem.
7723	CATCWalk playlist in extended monitor
7724	Can't double click to open v4.30_BETA trace older than b1103
7809	[VSE, CATCWalk] VSE AddEventToTraceFile primitive does not handle CATC Walk markers
7829	Icons in Traffic Summary look odd.
7871	Enhancement: Trigger on Deferred Packet Asserted
7885	Drop down lists are not showing up in Korean and Japanese versions of USB Protocol Suite
7917	USB3.0_2.0_HubTraffic.usb update
7968	Unexpected trace update on specific display options setting
7971	Crash when scrolling and/or saving .utg files
7972	CATCWalk audio/video playback error after save as range
7974	Unable to generate USB 3.0 Data Symbol Babble: Allow >1024 packet size in Exerciser
7998	Trigger on EXT (LPM PID) does not work
7999	Fix LPM codes to comply with October 2011 errata
8007	Crash when saving .utg files when certain views are open
8008	Crash on add CATCWalk markers twice in utg
8033	Need Resume Blackout Time Register implemented in AdvisorT3 for LPM
8035	Internal error for SCSI XDWRITEREAD(10)(0x53) on BOT device
8071	[CATC Walk] App Hangs when loading file due to Media Codec Filter initialization problem
8083	USB2.0 LS & FS crash with buffer overflow
8111	Sequence number errors appear when there is no recorded error
8113	Random capture errors in 3.0 traffic
8132	Mass Storage Class Decode - Missing Status
8189	Performance Fix: Load CATC Walk Codecs only when needed
8273	Ttrigger restart with timer not working
8285	Keep Across Recording option broken
8291	Bus Utilization Graphs wont hyperlink to trace view
8294	Cannot do internal loopback test
8425	New .txt file function being removed from Windows Desktop by USB Protocol Suite SW
8462	[CATC Walk] Recorded audio file doesn't playback

8463	[CATC Walk] Playlist dialog: Dragging from Packet# node in left-side tree view and dropping in right-side list will add marker from wrong packet
8464	[CATC Walk] Playlist dialog: Allow adding same marker multiple times to playlist.
8465	[CATC Walk] Playlist dialog: Not intuitive how to add markers to playlist
8505	Document errors shown in traffic summary
8531	Truncated message when downloading USB 2.0 gen files
8541	Crash during convert old trace
8599	Voyager can get bricked if power off during FW update. Ethernet needs to be enabled to fix it.
8604	Error Message when SW opens
8605	LTSSM views broken after adding Multimedia Markers
8619	Crash with new .utg file when the some level decoding selected
8648	Hub Class Decoding Problem

4.7. Version 4.32 Build 1126 (December 18, 2011)

- New Features
  - CrossSync 2.22 b 46
    - Supports USB Compliance 1.40 b 118

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.16
    - Firmware version 1.16
  - Voyager M3/M3i
    - Main BusEngine version 1.45
    - Serdes BusEngine version 1.11
    - Firmware version 1.40
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

Note: The use of Audio and Video markers is limited to the file types supported on a user's system. CATC Walk has been tested with .mp3 and .wmv files, which are supported by Windows as installed. If additional codecs are installed, they should also work, but it is the user's responsibility to chose formats that will work for whomever they intend to exchange CATC trace files. (No different than email attachments in this regard)

- This release includes fixes for the following issues

Issue Id	Summary
3902	Periodical IPS in USB3 data captured with filtering in
4859	Occasional corrupted data packets captured in SS spooled recording
5029	Date of "Data modified" is updated everytime while just viewing a trace
5032	USB 2.0 circuit misses Data when link comes out of LPM (**See Note Below**)
6273	When a device goes into compliance mode the LTSSM doesn't track correctly
7405	Trigger on Deferred Packet asserted
7424	[Protosync] Zoom in waveform until USB suite ask for file update
7507	Control endpoints != 0 cannot be hidden with Hide Addr & Endp mechanism
7520	Invalid addresses appear in DECODING assignment window
7667	Search for Marker fails when Marker is hidden by Stacking
7789	File --> Check Syntax of .utg File" imposes/implies 128k generation buffer size limit for USB 2.0 generation

7853	[CATC Walk] Issues with attaching multiple files with the same file name
7859	Data View opening when you hit the Expand triangle on the Data Field Cell in Packet View
7860	Quick Timing Markers don't show up in Marker List any more
7862	Crash opening Rec Options from Mobile T2 trace
7909	Exerciser Scripts out of place
7914	Show endpoint when CLEAR_FEATURE ENDPOINT_HALT occurs
7916	OTHER_SPEED_CONFIGURATION decoding broken

Note regarding bug 5032 (Capturing 2.0 packets after LPM sequence) :
This bug will be fixed fully for Advisor T3 and Voyager M3 and M3i systems in release 4.35, which will follow. For now, it is fixed only in Voyager systems, and requires a registry entry to make it work correctly:

HKEY_CURRENT_USER\Software\CATC\USB Protocol Suite\Misc\ResumeBlackoutTime

Set Registry Value (hexadecimal) to: **0x70**

This will allow the analyzer to capture packets within 2 microseconds of the completion of the Resume signaling.

4.8. Version 4.30 Build 1113 (November 15, 2011)

- New Features
  - CrossSync 2.22 b 46
  - Supports USB Compliance 1.40 b 116
  - CATC Walk : Enhanced multi-media markers <see Note below>
  - Upload starts when trigger occurs

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.16
    - Firmware version 1.16
  - Voyager M3/M3i
    - Main BusEngine version 1.44
    - Serdes BusEngine version 1.11
    - Firmware version 1.40
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

Note: The use of Audio and Video markers is limited to the file types supported on a user's system. CATC Walk has been tested with .mp3 and .wmv files, which are supported by Windows as installed. If additional codecs are installed, they should also work, but it is the user's responsibility to chose formats that will work for whomever they intend to exchange CATC trace files. (No different than email attachments in this regard)

- This release includes fixes for the following issues

Issue Id	Summary
7269	API failure with Large USB 2 trainer files
7095	Roll up bursted packets into transactions
7076	Fix Confusing Column names in Export to .csv
7070	Add Deferred Packets to Search, etc.
7061	Add configurability of K code error injection for Compliance
7058	CrossSync USB-FC: USB app will not be closed automatically during cross-sync exit
6971	Re-enable toggle and pulse low for USBTracer and Advisor

6922	Bad Packet Length on 1st USB 2 packet
6918	Add Deferred Packets to Traffic Summary
6907	Isoch Video: Incorrectly decodes the srcSourceClock field
6905	Incorrect EOB issue
6889	Fix ERR packet direction (should always be device to host)
6881	Add PP bit to STATUS TP packet
6868	Fix hub decode of Clear Feature for PORT_L1
6846	Decode Link commands that have only one SLC or EPF incorrect
6844	Add Shortcuts List to Help Menu
6842	Search on a Hidden event should prompt to unhide
6790	Crash at Open File v4.31 b 1035
6754	Bit Stuff Error Trigger added back
6750	Voyager as the follower of U2 Exit does not send U2.Exit LFPS
6749	Voyager BE does not follow Recovery with its default setting after power-up
6734	ISO Transfer - Send Pipe Command
6722	Optimize decoding of Isochronous traffic
6611	Certain Transactions do not roll up into transfers
6610	Fix decoding of Set Feature Port_Link_State
6598	Add HSIC Connect to Bus Conditions for USB 2
6597	Scope import fails for 3.0 traffic
6585	Decode Standard Request in Transaction level
6431	Document cases where simple filter LUP/LDN & ITP does not filter out
6359	Re-organize the sample files
6333	Search for LFPS types added
6332	Allow triggering on specific LFPS types
6324	Add External trigger out capability to Manual Trigger occurrence
6255	Add ability to set Manual Trigger via Automation
6196	Fix style issues in windows 7 (Large icon mode) (controls not seen)
6192	Trig/Filt license conflict with advanced mode recording rules
6146	Spooled recording interrupted by Internal Analyzer Code 512 error
6115	LTSSM view not processed
6103	Electrical Test Loopback mode: remove Master Errors from the GUI
6037	SW- About box ->register product online : work only if clicked second time.
6027	Link Commands need better Tooltips
6005	Incorrect Transaction Decode for Sequence Number Error
5973	AT3 - reset BE failed with message "Reset failed. Please try again"
5927	Separating data transfers of the same stream-id of consecutive non-queued SCSI commands of UAS devices.
5617	LFPS triggers added to GUI
5544	Individually hide LUP/LDN and Power Management packets
5538	Group LCRD/LGOOD with related Header Packet
5484	Begin upload whenever trigger occurs for performance enhancement
5464	Roll up Rejected Power Management at the TRA layer (LGO-LXU)
5043	Flag SS STATUS TP packets when device illegally occupies Reserved Fields
4669	For USB 3.0 the value of "No_idle_BW" and "With_idle_BW" in Time Calculation is the same
3804	Document that Compliance Suite does not work with Ethernet connection
857	Video Class Decoding extensions
4699	Fix for "Call Host_QueueSCSIWrite10Command_wPattern_BO(1, i, i, 1, 0, 13)" in USB 3 Exerciser Script

4.9. Version 4.21 Build 1035 (May 30, 2011)

- This is version 4.21 of the USB Protocol Suite.
- New Features
  - CrossSync Bug Fixes Support (Version 2.11 Build 21)
  - Simultaneous 2.0 and 3.0 Recording on Advisor T3 (with license)
  - Simplified Electricals Compliance Pattern Dialog
  - Configurable recording segment size
- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.11
    - Firmware version 1.16
  - Voyager M3/M3i
    - Main BusEngine version 1.31
    - Serdes BusEngine version 1.11
    - Firmware version 1.37

  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
1716	Bluetooth HCI Decoder syntax fix (NextNBits)
3195	PCIe and USB apps won't run at same time in certain circumstances
5015	Drivers should indicate that they are for M3 and M3i
5112	Open Recording Options in a dialog in File Info causes invalid configuration
5562	First part of captured SS segment is not decoded at SCSI level
5570	Limit Spooling size in GUI to prevent wrap to negative numbers
5571	Deferred setup data packet errors are being skipped
5596	One out of two uploaded USB traces did not get closed by clicking on "X".
5626	U1 LTSSM missing from NEC power management trace
5627	U3 wake LFPS show in RX U1-U2 link state
5636	USB uploading hangs once in a while on Vista 64
5648	USBSuite does not always get closed by CrossSync when it is unchecked in CrossSync Applications dialog.
5681	RTS not supported on UPAS 2500
5772	Change SCSI Trigger default to BOT
5775	Low power exit user define length bug is fixed
5776	Compliance and other Automation not able to save files. Note added explaining to set Firewalls to Public.
5780	CRC-16 error when importing HS USB 2 from .scope file
5840	Fix clobbering of Ping LFPS signals during U1
5877	LFPS values enormously out of range
5982	Japanese installs don't show simple filters tabs correctly
6136	Crash when recording > 1GByte buffer with Automation (CrossSync, Compliance, etc.)
6193	Simple filter LUP/LDN & ITP does not filter out when Loop in Advanced Trigger
6195	Applying rec. rules from File Info caused a crash
4293, 3147	Allow user to configure recording segment size

4.10. Version 4.20 Build 1021 (Feb 7, 2011)

Voyager Users Note: With this release, the CATC Sync Expansion card needs to be upgraded to FPGA Version 8.00 or higher at the LeCroy Factory. If you have a CATC Sync Expansion card in your Voyager unit, please contact LeCroy for information on how to obtain your free upgrade. Cards which require factory upgrade will be reported as version 0.00 in the About Box. Attempts to upgrade these via the normal Software mechanisms will not succeed.

Please remove the old CATC sync card before running this version of USB Protocol Suite.

- This is version 4.20 of the USB Protocol Suite.
- New Features
  - CrossSync Support (Version 2.00 Build 16)
    - Merge Files
    - ProtoSync for USB 2.0
    - USB 3.0 Exerciser Device Emulation Framework
    - Test & Measurement Decoding

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.07
    - Firmware version 1.16

  - Voyager M3/M3i
    - Main BusEngine version 1.28
    - Serdes BusEngine version 1.11
    - Firmware version 1.37
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
5540	Add Ctrl-g to bring up the Go To Packet # dialog
5441	Timing Calc - time measurement drop down pick list needs to be larger to show all possible selection
5377	USB 3.0 Exerciser Sending Skips during TS1 and TS2 pads with extra Logical Idle
5339	SW Crash during Convert from old file format
5337	USB 2.0 Audio Class does not decode correctly
5303	Incorrect Hex decoding of USB 2.0 Hub Request
5295	CSV Imported files disable all licensed functions
5271	Fix spelling LMPA to LPMA
5149	SW Crash during Decoding
5143	Advisor T3 license error because of not cleared M3i setting
5140	Chan 1 Pkt, Transaction, Xfer summary show zero inside Traffic Summary for USBTracer & Advisor
5128	SW Crash when converting files recorded in 4.10 release
5112	Loading Recording Options from a trace file can corrupt existing Recording Options
5070	Highly unexpectedly single ended zero on classic traffic
5063	An option to remove timer markers inserted into USB3 Link States Timing View is required.
5062	USB Suite not decoding Hub removable bit properly
5044	External Trigger on USB 3.0 Basic Triggers
4998	Export of USB 3.0 Packets to generation format misses DP packets
4992	Run Time errors in USB Suite while running Compliance Test
4989	Analyzer occasional crashed on USB3 Device Link Layer Supplemental
4985	Compliance Suite failed at Host Phisical Layer TD 6.3 because of the compilation error
4981	Compliance Suite App Crash (due to USB Suite code)
4973	DPH errors in captured USB3 packets (M3i and Advisor T3)
4968	Incorrect Timestamp on Dev Traffic during Voyager Compliance testing
4963	Add support for Export Traffic Summary to HTML via Automation
4962	clock not reset occasionally on one of cascaded Advisor T3 units
4948	Invalid Seq. Number Error with Hub Traffic
4946	FORCE_LINKPM_ACCEPT Set/Clear feature not decoded
4903	Show 2 CRC 5 errors in link tracker
4887	Crash when closing .utg files
4880	M3i: Ext Trig In (Global) broken for USB3 traffic if USB2 not selected in Rec. Channels in Rec.Options
4873	Allow cancel of .csv import
4870	Sequence Number Error not detected
4869	Add External Trigger in USB 3.0 Rec Rule window
4867	M3i USB3 3.0 link LED stays in Polling state (blinking yellow) after disconnecting USB3 cables
4857	AdvisorT3 shows 2.0 Link LED when no cables connected
4835	Merge trace of High Speed and Classic Speed traffic captured on two cascaded Advisor T3 Failed
4830	Advisor T3 and Voyager: Sequences and Triggers occur before Record Start
4821	False Missed DPP error in header packets retransmitted in response to LBAD
4796	Occasional crashes while doing start/stop USB3 recording with running RTS on vista 64 system
4773	Add USB 3 Signal Params to File Info
4760	SET SEL Standard Request
4718	2.0 Trainer LED Flickering
4689	Starting Compliance scripts on Windows 7 32 system caused Run Time errors followed by crash
4682	Seeing LBAD on Advisor T3 but not on Voyager M3i

4680	Can’t trigger on SET_INTERFACE or GET_INTERFACE
4676	LPMA trig but not captured
4670	Truncated status Display in main window
4646	Add a new column and identify Transaction Type (IN/OUT/SETUP) in CSV
4643	Type and subtype in csv export
4621	AdvisorT3 Crash on Upload
4619	Don’t allow PowerTracker if no power data captured
4618	Max Power Tracker view does bad things
4602	New error injection for corrupt LC
4541	Add Rx.detect state transition to Packet View
4480	License failure on 2500 systems
4375	Advisor T3 Ext Trigger In and Ext trig Out do not work
4336	UAS decoding doesn't support v4 Sense IU
4060	Can't capture legal stand-alone DPH's as a short DP (They appears as IPS's)
3957	Opening a Trace from the Compliance doesn’t allow closing trace
3930	Cascaded recording malfunctioned in M3 - M3i configuration
3898	UsbSuite.exe remain in windows task manager after running Automation
3780	LCRD_X inside link tracker packet field decode incorrect
3759	USBTracer - Transfer # does not match for merge file from ch0 & ch1
3422	Unable to merge Sync'd traces.
3355	VSE access to PowerTracker
3270	Detail View should provide scroll bar when all fields not visible
3089	Show channel numbers column in Spreadsheet View for merged files
2086	SCSI data payload in Transaction level display differently after decoding in Mass Storage Class

4.11. Version 4.10 Build 957 (Sept 24, 2010)

- This is version 4.10 of the USB Protocol Suite.
- New Features
  - Data Truncation for 3.0 Traffic
  - SCSI Layer Export to Exerciser file
  - ProtoSync for USB 3.0 Traffic
  - PowerTracker Smooth Zoom
  - VSE Access to PowerTracker Data
  - Bug fixes

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.07
    - Firmware version 1.13
  - Voyager M3/M3i
    - Main BusEngine version 1.24
    - Serdes BusEngine version 1.11
    - Firmware version 1.23
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
387	Bit stuff error triggered but did not show up in the Error Summary

2095	Event trigger settings still active in Manual Trigger mode.
3177	At beginning of trace, bad timestamps, LFPS and Electrical Idle Duration overflows
3355	VSE access to Power Tracker Data
3359	Add Link indication to Status Bar
3723	"Header Sequence Number Error" and "Header Buffer Credit Number Error"
3795	View Data Block Save feature saves formats incorrectly as ASCII
4122	Link Tracker should show CRC errors
4440	LTSSM & Timing View incorrectly shows U3 state transition
4470	Deselected device gets reconnected automatically
4480	UPAS 2500 Licensing Problem
4493	Term and Momentary Disconnect problems when switching analyzers between M3 and T3
4501	Unable to insert values in Advance Trigger Events edit controls
4502	Selected Trans packet HOST_NOTIFICATION in USB3.0 Rec. Rules shown as TP(Reserved)
4506	Can't save RTS .csv file on Vista or Win 7
4511	Hang system while updating virtual LED's in status bar
4519	Packet header wrong in Save As file on Vista
4523	VPD Data of SCSI Inquiry (need trace file from Roy to verify)
4529	Disallow Rec Options changes during record and upload
4530	Termination Status incorrect after recording option modification
4531	TS2 trigger incorrectly with skp/idle filter out disabled
4556	License information shown for Advisor T3 and UBSMobile T2 does not apply to the products
4557	Recording Option window shows Help About or License Information after Cascaded Recording
4579	Automation: SetScriptVars not working
4582	Advisor T3 USB 2 Real-time Stats not working correctly
4585	Advisor T3 incorrectly shows 1 G memory then switches to 2 G.

4.12. Version 4.00 Build 916 (July 30, 2010)

- New Features
  - Advisor T3 Support
  - ITP Generation in Exerciser
  - Link Status "LEDs" mirrored in Application window
  - New Tabbed View Layouts
  - Bug fixes

- This release supports the following LeCroy products:
  - Advisor T3
    - Main BusEngine version 1.03
    - Firmware version 1.11
  - Voyager M3/M3i
    - Main BusEngine version 1.23
    - Serdes BusEngine version 1.11
    - Firmware version 1.22
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
1016	Fix Foreign Language GUI problems, includes Bugs 1365, 1450, 1916, 1926, 2783, 2845, 2904, 3861, 3901, 3932, 3978, 3477, 3478, and 3479
1642	Miss Event Trigger on Data Toggle Error on a Specific Add and Endp

2678	LC and SS Headers no longer falsely indicate that they can be expanded
2697	Canceling file conversion caused a crash
3148	Decoded SCSI responses now shown at the Operations layer instead of DATA (x Bytes)
3704	USB3.0 compliance suite sw is allowed to be installed on drives other than the C: drive
3711	LCRD_X inside link tracker packet field decode incorrect
3722	Crash on uploading SS traffic
3750	3.0 RTS shows garbage when no link attached
3770	Search function broken if trace is scrolled
3808	Negative timestamps in combined 2.0 and 3.0 capture when 2.0 filtering is enabled (also #3250)
3836	Momentary Disconnect added, Term On/Off added to Exerciser Script
3847	Notice added on CD about requirement for QucikTime for Video tutorials
3849	In SET/CLEAR Feature decoding, need to add 0x32 LTM Enable
3850	Loading a saved recording file over rides the Hardware settings and speed settings
3855	Voyager USB2.0 is not triggering reliably on Data pattern – Fixed description in Manual
3904	Unable to modify USB 3.0 signal parameters
3908	Trigger on TS1/2 Normal does not work after setting Reset/Normal_Training bit - Reset and Normal_Training values in TS trigger events are swapped
3922	USB3.0 export default location need to be fixed
3925	Host/device emulation does not go out of Compliance Mode in USB3 Electrical Idle Test –Doc fix
3933	German XP can't run compliance suite
3958	Compliance Suite Trace file being destroyed
4001	Hide Device Address not working
4008	Propagate UAS DATA stream ID up to Transfer level
4010	USBTrainer on 2500 platform cannot work due to the error of "License Key Required"
4018	Mass Storage Decoding problems with SCSI tags and Stream IDs
4026	USB 3.0 Isoch Decoding Problems
4062	Hiding NAKs(NRDY), DATA is getting hidden as well
4066	Old USB Trainer file crashes USB Suite software
4109	LAU trigger not working (also #3350)
4136	Starting RTS interacts with uploading
4140	Software crashes when changing view types (Spreadsheet, etc.) in Display Option Dialog
4148	Manual Trigger Problems
4194	View Fields of decoded requests cannot be saved as HTML files on Vista and Windows 7
4200	Trigger/Filter channel speed setting encounter improper argument in basic mode
4237	Crash when Ext Trig used on 2 channels in Rec Options (only 1 resource exists)
4255	Isochronous 3.0 decoding assignment in the customer's trace caused a crash
4315	Exerciser LED lit incorrectly when capturing 2.0 Traffic on Voyager
4480	UPAS 2500 Licensing problems
4506	Could not save RTS data on Win 7 / Vista

4.13. Version 3.85 Build 875 (April 27, 2010)

- New Features
  - Improved USB 3.0 LED behavior:
    - Amber – Polling/LFPS
    - Solid Green – U0 (Idle)
    - Flashing Green – U0 (Active)
  - Enhancements to Trainer GUI:
    - Enter data in Trainer GUI
    - Auto-tag initiator setting
    - BULK-Only devices
    - Standard Requests
    - Task Management
    - Settings button
    - Packet Selection
  - SCSI Mode Sense (6 & 10) response decoding
  - GOTO menu SCSI entities
  - Packet Selection now works with GotoTrig, Goto Marker, Search
  - Stacking View now in Display Options Dialog
  - Termination Packet plus Search for it
  - Check-box filters for "ITP" and "LUP/LDN"

- Export to CSV from Spreadsheet Views
- Export to CSV of USB3 Packets
- Video Tutorials Link in Help Menu
- Video Tutorials Link on CD (Requires QuickTime)
- Quicker Application Loading
- Much Smaller Application Memory Footprint
- Supports for 1.30 build 75 Beta version of Compliance Package

- This release supports the following LeCroy products:
  - Voyager M3/M3i
    - Main BusEngine version 1.20
    - Serdes BusEngine version 1.11
    - Firmware version 1.21
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
2142	Starting RTS for USB3.0 traffic requires setting USB2.0 to not Auto-detect mode.
2984	3.0 Exerciser control of VBus: Momentary disconnect function added
3161	Add Ctrl Request and SCSI UAS and BOT templates /event types for Rec Rules
3308	Search Menu shows BERC symbol - unable to locate in trace file
3343	RTS window portions are lost when window is docked.
3354	Add PowerTracker results to Traffic Summary
3397	Transaction Engine doesn't handle EOB flag in Data packets sent by device
3427	Crash in USB3 Rec Rules when undo is used.
3459	SaveAs (range) works incorrectly when Stacking is on
3472	Crash on closing app
3538	USB 2.0 Complince Suite fails with automation call on USBTracer/Trainer
3545	ATAPI MMC4 DECODING for opcode ox28
3582	"Suspend Option" is decoded incorrectly on Super Speed
3629	Compliance Suite - TD.7.09 Test script doesnt inject correct error
3658	Invalid Toggle Error on LPM Transaction
3669	Export to .CSV of a large trace caused the sw to crash
3671	ACK not included into Transaction
3678	Crash in Exerciser
3687	USB3.0 Warm Reset on Voyager
3701	STALL not handled as per streams spec addendum
3704	USB3.0 compliance suite sw is allowed to be installed on drivers other than the C drive
3710	DP not searchable
3740	USBTracer - CH1 traffic summary column missing
3749	application crashes while running USB2 compliance with USBTracer/Trainer
3767	HS devices fail most of HS compliance tests on Voyager
3768	USBMobileHS - error summary hyperlinks dont work on channel
3769	USBTracer - Traffic summary for a trace recorded on Ch1 shows Ch0
3787	Compliance Suite TD 6.5 -- LFPS Duration test
3791	Compliance Suite TD 6.6, 6.7 & 6.8 - VSE incorrectly adds Error marker
3797	Hub Interrupt Port Change status Decoding issue

4.14. Version 3.80 Build 800 (February 24, 2010)

- New Features
  - Low power state triggering
  - Framing error Trigger
  - Simultaneous capture 2.0 and 3.0
  - Simplified Rec Options (Simple/Advanced selection)
  - New RTS counters & displays (Error rates)
  - CRC Error injection for Exerciser
  - Enhanced WaitPacket Exerciser function
  - Search for Packet Headers in Find
  - Script control of Exerciser Terminations
  - Exerciser GUI for creating SCSI scripts & Standard Requests
  - SCSI level Triggers and Filters in 3.0
  - Electrical Tests with decoding of BERC, BRST and BCNT packet types To Be Supplied
  -
- This release supports the following LeCroy products:
  - Voyager M3/M3i
    - Main BusEngine version 1.19
    - Serdes BusEngine version 1.11
    - Firmware version 1.21
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues:

Bug Id	Summary
3153	VSE Link Command extensions
3295	Data pattern match trigger
3158	RTS byte counts wrong
3255	RTS throughput wrong
3292	Crash when scrolling through SCSI Decodes
3226	VBus relay thrashing when LTSSM set to Disable Idle in Exerciser
3155	Crash when brining up App layer only
3252	Rec options summary tab problem
2892	Link Stats overflow
3218	Crash with Compliance on Vista 64
3187	Problems starting 1st script in Compliance
3165	Compliance problems on Win XP
3033	HOT RESET and POLLING commands in Host Exerciser not working
2883	Problems with Slow Clock recording
2709	Filter In fixed
2487	Search on TP Header
3163	“Break Immediate” option for pipe commands
2707	Throughput of RTS matching Bus Utilization
3150	Traffic Summary shows DP Header and DP Payload counters with 0 value separate from DP counters
3087	Files requiring update after just being captured
3085	2 Consecutive framework TC’s cause USB app hang
3115	Transaction Engine should use 512 MaxPacketSize for control endpoints
3122	OUT transaction after NRDY decoded as IN
3148	Decoded SCSI response needed at OP layer rather than Data (x bytes)

3158	Byte count in RTS fixed
3162	Bus engine needs to set “Done” at correct time
3164	Wrong path set in Rec Options for Vista, Win 7 (Compliance)
3166	Compliance test 51 problem on Vista 32
3167	Pass/Fail report in compliance only for tests which were executed
3168	USB3 transactions not decoded
3174	SCSI decode show 2 data fields instead of combining them
3205	Cant auto-launch files after 1st install
3208	Transaction Data Length problem
3223	Cant trig on external input with Advisor (missing from GUI)
3160	Add framing error trigger
3159	Low power state trigger

4.15. Version 3.71 Build 763 (Dec 17, 2009)

- New Features
  - USB 2.0 Compliance Suite (Windows XP only, Contact LeCroy for information)
  - USB 3.0 Compliance Suite (Windows XP Only, Contact LeCroy for information)
  - Save snapshot of Real-Time Statistics data
- This release supports the following LeCroy products:
  - Voyager M3/M3i
    - Main BusEngine version 1.18
    - Serdes BusEngine version 1.11
    - Firmware version 1.19
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues:

Bug Id	Summary
2547	Rec Filtering not working with back-to-back packets (ie filter Link Command follwed by trigger on THP)
2608	Filter Out LCs malfunctions in case of multiple LC events.
2644	Filter Out LCs combined with triggering on DHP caused IPSs in USB3 traffic
2645	LC triggering is broken
2669	Filter Out DPP/DPH does not work
2671	Periodical IPS and CRC errors in LC in records with no filtering Idles and Skips
2712	RTS missing LBAD and CRC errors
2718	Bad title in Mass Storage decoding view
2720	Remove External trigger option for USBMobile
2757	Application “Discovery Failed” dialog showing up
2765	Default to use all memory for capture (not saved for USB 2.0 Gen)
2780	Crash when saving USB 2.0 .utg file changes
2892	Link Stats Overflow in RTS
2954	In some cases, Disconnection of 3.0 devices is not seen by analyzer
3001	False CRC triggering in 3.0 traffic
3005	Inaccurate timestamp when in SSC Rx Mode
3018	IPS’s caused by filtering LUP, LDN, LGOODn, and LCRDn
3023	Wrong detection of LFPS
3031	Termination status is not shown after BE or FW update
3037	Channel selection in USB3 trigger events does not apply to Counters

3040	Random garbage at end of decoded data
3051	Periodical IPS instead of DPP
3055	USB 2.0 Capture corrupt when 3.0 is slow clock (ignores slow clock now)
3056	EPF trigger
3060	First sequencer event missing in recorded traces
3061	Filter Out LGOOD does filter out LGOOD packets from Vendor device
3071	LSTTM does not show state changes in views in segmented traces
3084	Issues with SetLinkState (U1/U2)
3090	Corrupted USB 2 packets in Auto Mode with Spooling
3096	Problems scrolling horizontally in Spreadsheet View
3097	LPM Bit Swapped values in packet display
3099	LTSSM not recognize states other than U0
3101	Idles in the middle of packets causing IPS packets
3104	GET_DESCRIPTOR too long to decode (> 100 descriptors in CONFIG)
3111	VSE unable to distinguish between multiple RESERVED fields
3113	SCSI Decoding > 512 byte transfers
3116	Transaction Engine sets EOB bit in packets it sends when not needed
3123	Packets duplicated in Trace View
3124	Expand/Collapse not working on some packets
3131	Crash when scrolling in Spreadsheet View
3143	Payload not available in Spreadsheet View
3164	Compliance Suite not working under Vista or Win 7

4.16. Version 3.70 Build 728 (Oct 22, 2009)

- New Features
  - USB 3.0 Exerciser Transaction Completer
    - Sophisticated automatic handling of Transaction Ack's, NRDY/ERDY, etc.
  - Voyager M3i Analyzer RxDetect Enhancements
  - USB 2.0 Compliance Suite Beta (Contact LeCroy for information)
  - USB 3.0 Compliance Suite Beta (Contact LeCroy for information)
  - Spreadsheet Trace Views with Drag 'n Drop and Filters
  - Compressed CATC Trace View
  - Detail View of individual Packet, Transactions, Transfers, etc.
    - Drag and Drop fields to Spreadsheet Views
  - CRC Error Trigger
  - Updated USB 2.0 and USB 3.0 Decodes of UAS and SCSI
  - Search and Traffic Statistics for SCSI and UAS Levels
  - SCSI Performance Metrics (Trace View, Bus Utilization view and Traffic Summary)
  - Counters for USB 2.0 Triggers
  - Counters and Timers for USB 3.0 Triggers
  - Support for USB 3.0 in Verification Script Engine (VSE)
  - Spread Spectrum Support (Transmit & Receive)

- This release supports the following LeCroy products:
  - Voyager M3/M3i
    - Main BusEngine version 1.16
    - Serdes BusEngine version 1.10
    - Firmware version 1.19
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues:

Bug Id	Summary
2875	Setting external triggering in any event caused external pulse is case of any other trigger event
2607	DPH-LGOOD Sequence Trigger
2956,2421	Babble Triggers incorrectly
2804,2872	Crash with Hiding and High Level Decoding of USB 2.0 traffic
2966	M3i 3.0 Dev Emulation stays in U0 when commanded to go to U3 in Auto RxDetect mode
2980	Exported Idle time from Voyager 2.0 trace too small for Exerciser script (device cant see it < 88 bits HS)
293<5,6,7>	Incorrect Error logging in 3.60 release. Fixed in 3.70, but 3.60 traces will remain incorrect.
2955	SCSI Operations not decoded correctly
2957	USB 3.0 Exerciser VBus not enabled, so devices do not come up
2934	Replicated timestamps @ 1 uSec intervals occasionally
2864	Exerciser Scrambling mode fixes
2879,2670	Logical idles not being filtered
2615	Filtering not saving capture buffer space
2907,2906	Auto-Decoding not working for 3.0 SCSI traffic
2918	M3 users required to select “Manual” and uncheck “RxDetect” in USB 3.0 Misc Recording Options (no longer necessary)
2875	Setting external triggering in any event caused external pulse is case of any other trigger event
2905	Extremely slow response to Recording Options changes for USBMobile HS and T2
2858	Add “All Errors” selection in 2.0 Recording options

4.17. Version 3.60 Build 684 (Aug 15, 2009)

- New Features
  - Support Voyager M3i
  - Voyager M3i:
    - Power (Current and Voltage) capture and display
    - Improved Rx Detection and Termination control
  - Very Slow Clock (supports 700Kbps to 25 Mbps USB 3.0 symbol traffic)
  - Auto Scrambling Detection
  - High Bandwidth Exerciser (>4Gbps in bursts)
  - Verification Script Engine (VSE) for USB 2.0 packets and transfers, and for USB 3.0 transfers.

- This release supports the following LeCroy products:
  - Voyager M3/M3i
    - Main BusEngine version 1.14
    - Serdes BusEngine version 1.10
    - Firmware version 1.16
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
  - USBMobileHS, USBMobile T2
    - BusEngine version 1.03
    - Firmware/Driver version 1.00
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues:

Bug Id	Summary
PnW2406	Fixed USB 2.0 Device Emulation
PnW2540	Fixed: In some cases, LFPS capture may not be accurate at 2.5Gbps and 1.25 Gbps bit rate modes.
PnW2582	Fixed: Exerciser occasionally gets stuck in Training
PnW2692	Fixed: Restart in RTS not restarting Link statistics
PnW2715	Fixed: SCSI response code 0x70 is not decoded
PnW2758	Fixed: Issues with handling NRDY/ERDY
PnW2770	Fixed: Add "Wait for Termination" to Host Emulation (Fixed in Voyager only)

PnW2784	Fixed: Crash when loading unbalanced traffic between Tx and Rx 3.0 traffic
PnW2786	Fixed: Corrupted packets shown as bad USB2 packets and wrong time stamps in the USB3 traffic
PnW2788	Fixed: [USBTracer] Ext. trigger IN does not work on channel 1
PnW2807	Fixed: RTS is showing up on Advisor and USBMobile
PnW2816	Fixed: Search Direction Backward stopped working.
PnW2817	Fixed: Trigger Header Pattern is losing settings - TP_ACK with the RETRY bit set.
PnW2845	Fixed: Incomplete display of "Configuration Name" in Display Options -> General Window" in Japanese OS
PnW2851	Fixed: Wrap with a segment number caused compilation errors in the USB2 device emulation script.
PnW2786	Fixed: Corrupted packets shown as bad USB2 packets and wrong time stamps in the USB3 traffic

4.18. Version 3.51 (July 3, 2009)

- New Features
  - Bug fixes only

- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.12
    - Serdes BusEngine version 1.09
    - Firmware version 1.11

- This release includes fixes for the following issues:

Bug Id	Summary
PnW2625	Fixed: Incorrect LTSSM State Transitions.
PnW2650	Fixed: Incorrect Date and Time in Timestamp for long recordings
PnW2719	Fixed: Correct Include paths for UASP 3.0 Exerciser Scripts
PnW2726	Fixed: Incorrectly shown Route String field in packets that have the field reserved
PnW2736	Fixed: Raw Bits view of Low and Hi speed packets shown starting from incorrect electrical state
PnW2740	Fixed: USB 3.0 External Triggers not available on many event types
PnW2746	Fixed: Old Converted files, large 3.0 files corrupted when updating to 3.50
PnW2749	Fixed: USB 2.0 Rec Options (trig/filt) limited to 2 sequences only (fix: added 6 single state sequences)
PnW2750	Fixed: Saving 2.0 Gen files sometimes causes crash
PnW2756	Fixed: Can't recognize 2500 or 2500H after Gen plug-in removed/inserted
PnW2762	Fixed: USB Mobile shows 2 channels in status bar

4.19. Version 3.50 (June 15, 2009)

- New Features
  - Support USBMobileHS and USBMobile T2 products with USB Protocol Suite software
  - Voyager M3:
    - Real-time Statistics enhancements
  - 2 new CATC Trace viewing modes: Applications Layer and Lower USB Layers
  - "Stacked View", which collapses repetitive packet and transaction items into one item in the trace view.

- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.12
    - Serdes BusEngine version 1.09
    - Firmware version 1.11

- This release includes fixes for the following issues:

Bug Id	Summary
PnW1945	Fixed: When recording USB 2.0 traffic with speed auto-detection enabled, the analyzer may fail to correctly detect the traffic speed or cause devices to fail enumeration. Restarting the recording resolves the issue. If the problem persists, please force the recording speed to a specific value (High, Full, or Low).
PnW2433	Fixed: Cascaded Voyager M3 analyzers do not time-synchronize USB 2.0 recordings.
PnW2602	Fixed: Wrong transaction decoding caused by TP ACK retransmission
PnW2614	Fixed: TSEQ Trigger triggers on LFPS signals
PnW2618	Fixed: USB 3.0 transaction decoding doesn't handle EOB/ERDY sequence properly
PnW2634	Fixed: USB 3.0 Real-Time Statistics not reporting traffic
PnW2637	Fixed: USB 2.0 Real-Time Statistics showing timestamps at twice the actual time rate

PnW2658	Fixed: Automatic Polarity detection not working. Use manual selections.

4.20. Version 3.40 (May 29, 2009)

- This is version 3.40 of the USB Protocol Suite.
- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.10
    - Serdes BusEngine version 1.09
    - Firmware version 1.09
  - USBTracer/Trainer
    - Analyzer-only BusEngine version 2.62
    - Host Emulation BusEngine version 2.62
    - Device Emulation BusEngine version 2.62
    - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
  - Advisor
    - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
    - Firmware version 1.07
- This release supports the following specifications:
  - USB 3.0 specification version 1.0 including ECN# 001 of April 4, 2009
  - USB 2.0 specification up to ECN of July 16, 2007
- This release includes the following updates:
  - Voyager M3:
    - USB 2.0 Exerciser – host emulation is now supported
    - USB 3.0 Exerciser enhancements
    - New “WaitPacket” script instruction – allows users to create request/response scenarios more easily
    - New link layer error injection types – LC advertisement, delay LC responses, SLC framing
    - Customizable LFPS parameters
    - Customizable link training
    - Customizable link flow control
    - Support low-power link state transitions
      - USB 3.0 Analyzer enhancements
    - LTSSM View
    - Link State Timing View
    - Link State reports
    - Real-time Statistics enhancements
    - Control analyzer receiver terminations
      - Spool-to-disk recording on Voyager M3
      - Support Ethernet host interface on PCs with multiple network adapters
  - Traffic Summary packet range selection
  - Support USBTracer/Trainer and Advisor products with USB Protocol Suite software

- This release includes fixes for the following issues:

Bug Id	Summary
PnW1856	In some cases, the SpecView window will open with a larger size than when it was previously used.
PnW1977	Fixed issue where “Hide Ch1” option in USB 2.0 Packet Hiding in Display Options hides upstream USB 3.0 packets.
PnW1982	Fixed issue where in rare cases, the installation may appear frozen at the last stage.
PnW2145	Fixed issue where in some cases, the “search in hidden” option did not correctly locate packets hidden from view.
PnW2290	Fixed issue where in rare cases, the timestamps on Upstream and Downstream packets in a SuperSpeed recording may be misaligned.
PnW2304	Fixed rare issue where you may get a “Analyzer communication error” when operating Voyager via the Ethernet host interface.
PnW2322	Fixed issure where LFPS durations are shown 20-200ns shorter than they really are.
PnW2336	Fixed issure where USB 3.0 Exerciser didn’t always perform LMP exchange when link enters U0 from Polling (when using SetLinkState script instructions).
PnW2337	USB 3.0 Exerciser now correctly sets scrambling bit in TS2 according to specified scrambling mode.
PnW2349	Fixed issue where in some cases, QuickTiming bar would incorrectly show 0% utilization for Host TX or RX.
PnW2361	Fixed some mistakes in sample USB 3.0 exerciser scripts.
PnW2363	TRACE_B instruction in USB 3.0 exerciser script now works correctly.
PnW2387	Fixed issues where in some cases, Timing Calculator report incorrectly showed 0 for Addr/Endp metrics.
PnW2397	Fixed some issues with the accuracy of the TraceView scroll bar.
PnW2399	Automation API function “MakeRecording” works properly now.
PnW2401	Fixed issue where the viewing level would always get reset to “Packets” regardless of the default setting in Display Options.
PnW2498	TS1/TS2 search from menu works correctly now.
PnW2566	USB 3.0 exerciser now provides VBUS in host mode.
PnW2437	Periodic Channel Capture Loss

4.21. Version 3.30 (Feb 6, 2009)

- This is version 3.30 of the USB Protocol Suite.
- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.04
    - Serdes BusEngine version 1.04
    - Firmware version 1.05
- This release supports the following specifications:
  - USB 3.0 specification version 1.0
  - USB 2.0 specification up to ECN of July 16, 2007
- This release includes the following updates:
  - USB 3.0 Exerciser – host and device emulation
  - Enhanced USB 3.0 Triggering
  - CATC Sync Card support – cascade multiple Voyagers for synchronized multi-channel recording
  - Improved USB 3.0 capture – better support for LFPS and Electrical Idle detection
  - USB 3.0 CRC errors are marked in red in SpecView
  - Quick-Packet Display - view recorded traffic while the trace file is still being uploaded
  - Import USB 3.0 traffic simulations via .csv file format
  - Dockable Timing Calculator window
  - Automatic script decoding assignments
  - Favorite Script Decoders option – customize which scripts are loaded to reduce application load time and memory usage

- This release includes fixes for the following issues:

Bug Id	Summary
PnW1858	Fixed issue where hiding packets in trace view did not hide packets in LinkTracker properly.
PnW2072	OTG timing parameters file fixed.
PnW2098	Corrupted Link Commands are now correctly flagged and reported.
PnW2124	Search in Errors Summary now correctly finds Bad Turnaround/Timeout errors.
PnW2148	Fixed issues with USB 3.0 auto polarity inversion.
PnW2156	Fixed application hang when trying to decode transfers in a HS recording with lots of NAKs.
PnW2162	Fixed issue where recorded OTG traffic only showed bus conditions.
PnW2169	Fixed issues when re-uploading buffers greater than 2GB.

4.22. Version 3.10 (Dec 11, 2008)

- This is version 3.10 of the USB Protocol Suite.
- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.03
    - Serdes BusEngine version 1.03
    - Firmware version 1.03
- This release includes the following updates:
  - Improved support for USB 3.0 capture
  - Support for USB 3.0 connectors on analyzer
  - Automatic notification when software updates are available
  - Basic USB 3.0 symbol triggering
  - Supports USB 3.0 specification version 1.0RC.
  - USB 3.0 Bus Utilization graphs
  - USB 3.0 Navigator view
  - USB 3.0 Real-Time Link Data Throughput graph

- This release includes fixes for the following issues:

Bug Id	Summary
PnW1798	Issues with resizing Class/Vendor decoding window on Vista fixed
PnW1811	Incorrect messages after BusEngine / Firmware update fixed
PnW1855	Issues opening USB 3.0 trace file with LinkTracker enabled are fixed
PnW1883	Trigger marker now shown in a trace for all trigger events
PnW1884	Problem with data truncation causing entire data packets to be filtered out fixed
PnW1887	Issues with trigger events not working if configured with a counter fixed
PnW1890	Issues with External SMA trigger in/out fixed
PnW1892	Issues with HS/Classic Bus Conditions triggers fixed
PnW1894	Issues triggering on 0-byte data payloads fixed
PnW1898	USB 2.0 HS microframe counts now shown in trace view.
PnW1901	Issue with "Software initialization failed" message on starting the application fixed

PnW1902	Issue updating BEs and Firmware over Ethernet fixed
PnW1904	Stability issues when turning off the unit connected over Ethernet fixed
PnW1916	Corrected GUI problems in Japanese version of XP
PnW1919	Issues saving recording after full buffer trace corrected
PnW1921	Issues with partial uploading over Ethernet fixed
PnW1922	Issues with Hide Link Commands option fixed
PnW1955	Issues with QuickTiming calculations on transfer level fixed
PnW1960	Issues opening legacy trace file by double clicking fixed
PnW1979	Issues with empty files uploading when using USB 2.0 host connection fixed
PnW1984	Issues with USBSuite.exe staying in the memory after exiting application when using Ethernet interface fixed
PnW1996	Issues with HNP requests decoding fixed
PnW2026	SOF hardware filtering fixed
PnW2027	Issues with empty traces when stopping upload before completion fixed
PnW2053	Corrected counters on SKPs and Idles
PnW2099	Corrected host/device mapping on MMCX connectors
PnW2101	Issues invoking SpecView on a packet with a hidden field fixed.
PnW2103	Issues launching app by double-clicking a .usb file fixed
PnW2104	Errors reporting "File cannot be closed" during save operation fixed
PnW2126	Issues decoding status stage of USB 3.0 control transfer fixed
PnW2133	Corrected behavior of Idle/SKP hardware filtering

4.23.Version 3.01 (Oct 20, 2008)

- This is version 3.01 of the USB Protocol Suite.
- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.02
    - Serdes BusEngine version 1.02
    - Firmware version 1.02
- This release includes the following updates:
  - Improved support for USB 3.0 capture
  - Automatic notification when software updates are available

- This release includes fixes for the following issues:

Bug Id	Summary
PnW1793	Opening Traffic Summary caused USB Suite message "An invalid argument was encountered" on a Vista system
PnW1798	Class/Vendor decoding window cannot be resized on the tested Vista system
PnW1811	BE or FW updated is followed by a message asking to wait until Voyager restarts. No restart happens after BE/FW update.
PnW1855	Crash when USB 3.0 trace file is opened with LinkTracker
PnW1861	Voyager captures bad USB 3.0 symbol stream when unconnected
PnW1880	Under certain conditions, allowing the recording buffer to wrap may result in empty traces in subsequent recordings. If this occurs, disconnect then reconnect the analyzer.
PnW1883	Trigger marker is not shown in a trace for certain trigger events.
PnW1884	Setting data truncation may in some cases cause entire data packets to be filtered out.
PnW1887	Trigger events do not work if configured with a counter.
PnW1890	External SMA trigger in/out not supported.
PnW1892	HS/Classic Bus Conditions triggers do not work.
PnW1894	Data length trigger only triggers on 0-byte data payloads.
PnW1898	USB 2.0 HS microframe counts not shown in trace view.
PnW1901	"Software initialization failed" message on starting the application
PnW1902	Updating BEs and Fw over Ethernet connection followed by required reboot of the unit caused a crash.
PnW1904	Turning off the unit connected over Ethernet during recording caused the sw to crash.
PnW1916	GUI problems in Japanese version of XP
PnW1919	Recorded full buffer trace cannot be saved first time
PnW1921	Partial uploading does not work over Ethernet connection
PnW1922	Hide Link Commands option does not work
PnW1955	QuickTiming calculation shows 0 throughput when markers are set on transfer level

4.24.Version 3.00 (Sept 27, 2008)

- This is version 3.00 of the USB Protocol Suite.
- This release supports the following LeCroy products:
  - Voyager M3
    - Main BusEngine version 1.00
    - Serdes BusEngine version 0.90

  - Firmware version 1.00
- This release includes the following updates:
  - Data View for USB 2.0 and 3.0 traffic
  - SpecView for USB 3.0 traffic to display exact bit positions of fields within packets, similar to the figures in the USB 3.0 specification
  - LinkTracker for USB 3.0 traffic to display link-level data flow and timing between upstream/downstream directions
  - Improved GUI for USB 2.0 triggering and filtering
  - QuickTiming markers for USB 2.0 and 3.0 traffic
  - Standard and Hub decoder scripts for USB 3.0 devices
  - Ethernet connectivity with analyzers
  - Remote analyzer connections (“Analyzer Network”)

USB Protocol Suite is based on previous releases of USBTracer/Trainer. The following is the history of changes to USBTracer/Trainer software.

4.25.Version 2.60 (Apr 14, 2008)

- This is version 2.60 of the USBTracer/Trainer™ product.
- This release contains the following components, which are necessary for the operation of the product:
  - USBTracer™ Application Version 2.60.
  - USBTracer™ Bus Engine Version 2.62 (Analyzer + Host Emulation) and Version 2.62 (Analyzer + Device Emulation).
  - USBTracer™ Firmware Version 1.09.
- This release includes the following updates:
  - Link Power Management support (USB 2.0 Specification Update)
  - Improved Vista compatibility
  - The following USB Class decoding is now supported:
    1. Personal Healthcare
    2. Content Security
  - Automation Command Line sample added
- This release includes the following fixes:
  - USBTrainer generating too long EOP due to concatenating packets [489]
  - Incorrect decoding in Get Descriptor [1261]

4.26.Version 2.50, Build 421 (July 20, 2007)

New Features:

  - Windows Vista 32 and Windows Vista 64 support added
  - The following USB Class decoding is now supported:
    1. IrDA
    2. ATAPI
    3. HTTP
    4. IP

Bug Fixes:

- Separate Mass Storage SCSI Status Transfer from Data Transfer [619]
- Export of HiEOP value from Advisor to Generator Text file fixed [500]
- HID report descriptor decoding fix [709]

4.27.Version 2.32, Build 418 (June 12, 2007)

New Features:

- The following USB Class decoding is now supported:
  - Video Class 1.1
  - Communications Data Interface Class
  - Cable Based Association Framework (WUSB implementation)
  - Smart-Card Class (CCID + ICCD)
  - RNDIS

Bug Fixes:

- wChannelConfig standard audio descriptor incorrect decoding in description [362]
- iTerminal text for standard audio descriptor says input when it is an output terminal [363]
- HID report descriptor parser incorrectly decodes 32-bit tags [605]

4.28. Version 2.30, Build 388

New Features:

- Three new Transaction Levels were added: PTP Transaction, PTP Object and PTP Session.
- With the introduction of these new Transaction Levels the following decodes are now supported:
  - PictBridge
  - MTP
  - PTP
- The following decodes were updated to match the latest specifications:
  - Monitor (HID extension)
  - Physical Interface (force-feedback extension to HID)
  - Power (HID extension)
  - HUT (HID)
  - Point of sale Devices (HID extension)

Bug Fixes:
- Fix Wire Adapter decoding problems.
- Fix failure of Legacy Descriptor decoders in Transfer view.
- Fix Audio Class Decoding problems.
- Fix msb<->lsb incorrect order in Transfer Level Request Field display.
- Fix crash when hitting Intelliframe/Bitstream button in Gen file.
- Fix hiding by host/address/endpoint for control transactions and transfers.
- Fix crash when opening of USB Gen Files from Automation client. They now open explicitly when you start generation.

4.29. Version 2.20, Build 366

New Features:
- Certified Wireless USB Host and Device Wire Adapter (HWA & DWA) Transfer decoding. This gives the user a high-level view of the transfers passing through a Wire Adapter RPipe.
- Decoding assignment feature now includes support for Class/Vendor Request and Endpoint assignment to Certified Wireless USB HWA & DWA RPipes.
- Support for the Automation Analyzer Adapter.

Bug Fixes:
- Correct the totals on some reports in Traffic Summary. [C0006930]
- Fix software hang when trying to hide NAKs during transaction decoding. [C0006960]
- Fix software crash when decoding a trace file of a Low Speed enumeration through a High Speed hub. [C0006954]
- Fix software bug that caused decoding of certain trace files to take a very long time. [C0006943]

4.30. Version 2.15, Build 358

New Features:
- Enhanced Navigator functionality.
- High Level Decoding Mapping User Interface Enhancements:
  - Access Decoding Dialog via "Decode" Button in Toolbar (Always available)
  - Access Decoding Dialog from ANY packet, transaction, or transfer (You previously had to look for an appropriate entry!)
  - Single click selection of decoders (was select then apply)
  - Selection choices now direction-aware (only applicable ones added to selection list)
- CCID Messages for Bulk Endpoint decoding were added
- Improved the Hub Class Decoding.
- Toggle Analysis improvements. (C0005148)

Bug Fixes:
- Fixed ACK direction field after tokens in splits. (C0005278)
- Fixed false incomplete for split IN transactions. (C0005322)
- Fixed issue with Standard Requests not being decoded when in Video Decode Script Decoding mode. (C0005399)
- Fixed issue with Data toggle and display errors when Control Endpoint is not endpoint 0. (C0006322)
- When converting from Interrupt Transfer to Bulk Transfer, data payload loses one byte of data. This was fixed in this release. (C0006508)
- Fixed issue with Mass Storage decoding (Incorrect data size when CSW is at end of transfer). Fixed issue with PTP decoding (Incorrect container length displayed). (C0006853)
- Now, 16 view flags are allowed compared to previously only 5 flags. (C0006855)
- Fixed bandwidth calculation to include NYETed traffic. (C0006044)
- Fixed issue of not marking incorrect packet length if data length is larger than speed and transfer type allows. (C0006343)
- Fixed issue with the Traffic File Editor Replace function not replacing the current found one. (C0006223)
- Fixed issue with data toggle and display errors when Control Endpoint is not endpoint 0. (C0006223)
- Syntax checker for wrap did not report errors on invalid memory usage used. This was fixed in this release. (C0006510)
- Trainer: Fixed issue with incorrect generation of audio files. (C0006825)
- Trainer: Fixed incorrect display of raw data error. (C0006509)
- Trainer: Device emulation generates incorrect packets and corrupts data when in a loop. (C0006479)

4.31. Version 2.12, Build 237

Bug Fixes:
- Device Emulation: Add configurable Device Resume Time
- Device Emulation: Fix Looping bugs
- Device Emulation: Fix Suspend/Resume functionality
- Host Generation: Add device resume capability: add wait_resume=HERE before resume=nnn statement
- For extremely large traces (> 16 million packets), allow for an special option for decoding files to try to prevent running out of memory while loading the file.
- Fix bug which corrupted a trace file during automatic updating from a previous release's file format.
- Fix hang when saving a modified .utg file while NAK's are hidden

4.32.Version 1.91, Build 200

New Features:
- Advanced Script-Based Decoding
- Mass Storage Bulk-Only SCSI Decode
- Updated Hub Decoder
- Update Bluetooth HCI decoder
- Added association of .utg Line Number with Packet on Screen,
- add ability to invoke Default Editor
- Preserve user overrides on Transfer Types (Interrupt vs. Bulk assignment)

Bug Fixes:
- Timing Calculator can now be closed when it's pinned
- Search for Frame Number, Empty Frames, and non-empty frames fixed

4.33. Version 1.81, Build 164

New Features:
- Faster Hiding of Packets
- Vendor ID's Decoded into their company name
- Hide Chirps button

Bug Fixes:
- Fix Jitter problem on some Automatic SOF's generated by USBTrainer
- Fix problem where fan could make noise when partially blocked on left side
- Fix problem which caused FW to need to be downloaded twice when plug-ins were changed
- Add a twenty seconds timeout to prevent infinite hang when I/O failure occurs during uploading.

4.34. Version 1.80, Build 160

New Features:
- Support for UPAS 2500H, a USB 2.0 High Speed interface to the host
- On-The-Go VBus monitoring (requires version 5 of USBTracer Plug-In)
- Navigator Window to help define areas of interest for scrolling within a trace file
- Dockable Bandwidth Calculator
- Descriptor Decoding window is now sizeable
- .VCD file importing function
- Marker dialog can remain open while navigating through trace file
- Add ability to check syntax on a .utg file without downloading it to the bus engine
- Search for Transfer Data Length
- View Transfer Data Block
- Trigger on Data Length Equals, Less than, Greater than, and Not Equal to a value
- F1 key-based Help
- Explorer plug-in for previewing .usb files
- Partial Upload capability allows efficient conditional use of large traces
- Generator can now generate SE0 conditions smaller than 2.5uSec

Bug Fixes:
- Next and Previous buttons in Decoding Dialog fixed
- Fix crash when hitting Hide Devices button after previously closing it with the close box (rather than the Apply button)
- Fix ability to hide packets based on speed
- MDATA Packet Direction fixed
- Formulas now shown for Timing Calculator
- Fix Export Data bug which exported data from NAK'ed transactions
- Export Data now works on transfers over 1 million
- Fix bug with recording more than 256 meg when USBTrainer plugged in
- Fix hang when hitting Start/Stop button on box when no USBTrainer Plug-In
- Fix bug which did not allow DATA2 pids in .utg file
- Fix decoding of High Bandwidth Isoch Transfers
- Fix false toggle violation when GET Control Transfer returns no data
- Fix incorrect identification of Bulk transfer on low speed branch
- Fix incorrect toggle violation after Chirp Sequence
- Fix misc bugs in Timing Calculator
- Fix incorrect explicit frame numbers during export of Hi-Speed traffic to .utg file.
- Fix bug which prevented partial nibble mask/match values in data related Recording Resources (Data Pattern, Transactions, Device Requests)

4.35.Version 1.71, Build 137

New Features:
- Transaction Decoding in Background allows quicker access to viewing traces
- Search for Splits
- Performance Enhancements
- Updating older files to current versions is now under User's control
- User can override transfer types identified for some Interrupt and Bulk transfers, in case analyzer was not able to distinguish them properly
- User can choose Quick Search for Pid's and some Bus Conditions, at the cost of greater memory use. Also speeds up SOF/NAK hiding.
- Quick search for ANY Errors
- Add ability to default to Data Fields Expanded

Bug Fixes:
- Installation fixed to avoid possibility of accidental deletion of user's trace files or other files in the USBTracer directory during uninstall,
- Fix crash upon loading previous version files that contain Markers
- Fix decoding of OTHER_SPEED_CONFIGURATION descriptor
- Fix crash when doing time calculations on Empty trace

- Fix bug that prevented USBChief files of release 1.33 from being converted to current format.
- Fix bad and or missing packets when recording on rev 3 or below USBTracer Plug-Ins
- Improve Transfer Decoding algorithms to better identify transfer types
- Fixes to OTG decoding algorithms
- Fix bug which caused Packet Lengths to be reported as 0
- Fix Auto-Merge recording options feature
- Fix incorrect (bogus) packets which incorrectly show Data Truncation
- Fix virtual memory problem in Export to Generator Text feature
- Fix counters in Recording Options (only went to 255, now 65535)
- Fix crash when double-clicking on a .usb file

4.36.Version 1.70, Build 111

New Features:

- OTG (On-The-Go) Protocol Support: HNP and SRP decoding and searching
- Trigger Sequence Enhancements: Up to 7 levels of trigger event sequencing for ALL event types. In addition, up to 2 of these events can utilize Counters.
- Real-time Statistics of running traffic (At any time, Tracing or not!)
- New, more complete, easier to use Display Options Dialog.
- Automation (Remote Control) Interface and API available
- Up to 512 Mb Trace with or without USBTrainer module plugged in
- Search in Hidden (Search for packets even if they are currently hidden from view)
- Find All search function
- Licensing and Maintenance infrastructure
- Split Token trigger resource
- Packet Direction field in Packet View
- Identify and report incomplete byte errors
- Trigger on incomplete bytes
- Trigger on 8-bit ext Data Pattern input (Data7-Data0 on Beakout Board)
- Trigger on High Speed bus conditions (Chirp, Full Speed J, Full Speed K)
- Bluetooth Decoding file is now 1.1 compliant
- Add search for FS bus conditions on High Speed Branch
- Go To Channel #
- Go To Host, HNP, or SRP for On-The-Go traces
- Windows: Tile Vertical as well as Horizontal
- Performance Enhancements

Bug Fixes:

- Fix crash when hitting Device button in Bandwidth Calculator
- Fix problem preventing "raw_data=" from working in Generator
- Channel in Recording Options dialog not set correctly after saving .rec file
- Toolbar icons now correct after an install
- GP Extern Out forms not staying set
- Fix 2.0 GetDescriptors and SetDescriptors decoding
- Position Markers accurately in .utg files
- Occasional crash when reading .utg files
- Merging Advisor files from USBTracer and vice versa caused crash
- Fix formats selection for External Data field
- Seperate Intelliframe and Bitstream buttons for Generator
- Fix crash when scrolling an empty trace window
- Fix false toggle errors after a Bus Reset condition

4.37. Version 1.60, Build 90

New Features:

- Load/Display .utg Generator files similar to .usb files
- CHIRP sequence recording
- Low Clock Speed generation and trace capturing for Classic Speed traffic
- Low Clock Speed generation and trace capturing for High Speed traffic (Purchaseable option)
- Bus Utilization view
- Drop-down display option menus on Packet Fields
- Trigger on Data Length
- 8 bits of External Data Saved (vs 2)
- Rear panel BNC Trigger Input supported
- Markers are now supported for Transactions
- Option of displaying Timestamp in Nanoseconds
- USBTrainer: NAK/NYET automatic retry in Intelliframe Mode
- USBTrainer: Breakpoints
- USBTrainer: Specify # of bits in raw_data packet

Bug Fixes:

- Fix idle time calculations when packets are preceded by or follow bus conditions and/or packets of different speeds (low speed on full speed branch)
- Fix error in Suspend Detection
- Fix error which caused faulty data to be displayed in the transaction view of a packet which had errors

- SplitTransaction faulty toggle violations fixed
- Export Data works on Control Transfers now.
- Export to Gen File:
  - Increase precision of generator idle times
  - Markers cause syntax error
  - Fix incorrect suspend times
  - Fix problem where saving without Naked transactions caused expected_pids to accidentally disappear

4.38.Version 1.50, Build 65

Added Feature:
Classic Speed Slow Clock Generation. Outputs USB bitstream at fractions of the standard bit-rate.
Bug Fixes:

- Fix incorrect toggle errors on ISOC split transaction
- Fix problem where ISOC transactions were being mis-interpreted as BULK transactions, and vice-versa
- Fix problem with doing a SaveAs from Advisor on a USBTracer file (and vice-versa) was reporting numerous errors incorrectly.
- Fix bug where toggle/timeout errors were being reported on addresses that were not on the USB wire under test.
- Fix bug which caused dropped trace data blocks ~30 packets before the end of a trace after stop button is hit. Generally causes a false CRC problem,
- but could be others. Effects only high speed traces.
- Add checking for ENDPOINT_HALT to reset toggle state of an endpoint. Prior to this, toggle state was incorrectly shown as being an error in half of the cases.
- Fix bug which would cause incorrect data toggle and timeout error analysis on devices with addresses above 63.

4.39.Version 1.42, Build 63

Bug Fixes:

- Fix Ping output in Export to Gen File
- Framing error in High Speed during reset: was showing errors on 2 packets, should have been 1.
- Generator: raw_data=(xx) fixed
- Use better filter for transceiver glitches to prevent regular Bad Packets from being filtered
- Show missing NAKs as errors (They were not being shown at any level)
- Fix various toggle violation errors: show ones that were being missed, remove false reports.
- Fix various turnaround/timeout violation errors: show ones that were being missed, remove false reports.
- Make turnaround violation visible at Transaction level
- Add checking for legal keywords and values in .utg file
- Fix exporting Low Speed trace to Gen File
- Make Timestamps on consecutive Packets which are the same an Internal Error
- Fix bug which caused bad data packets to be generated sometimes when bit stuffing had occurred.
- Fix Bus Conditions timestamp and duration precision.
- Fix Suspend/Resume generation problems
- Fix tooltip/taskbar interference bug in Windows NT/2K
- Fixed RESTART Recording Option Action for Counters and Sequencers.
- Time Stamp precision improvements
- Fix bug in Suspend and Resume duration calculations.
- Fix DRAM Power-on test
- Fix bad packets at the beginning of a High Speed trace when in Auto-detect mode
- Fix erroneous error packets on full speed during auto-detect.

4.40.Version 1.41, Build 62

Updated release of USBTracer. Contains support for USBTrainer.

4.41.Version 1.40, Build 57

This is the first release of USBTracer.

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6. Support

Online Download

Please periodically check Teledyne LeCroy Protocol Solutions Group's web site for software updates and other support related to this product. Software updates are available to those users with current Maintenance Agreements.

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